DOCUMENT RESUME

ED 359 695 EC 302 255

AUTHOR Utley, Bonnie L.
TITLE Facilitating and Measuring the Team Process within More Inclusive Educational Settings.
PUB DATE May 93
NOTE 26p.; In: Kupper, Lisa, Ed. National Symposium on Effective Communication for Children and Youth with Severe Disabilities (2nd, McLean, Virginia, July 10-12, 1992): Topic Papers, Reader's Guide & Videotape. p55-77. See EC 302 252.
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Communication Skills; Elementary Secondary Education; Family Role; *Interdisciplinary Approach; Intervention; Mainstreaming; Parent Participation; *Severe Disabilities; *Social Integration; Student Educational Objectives; *Teamwork

ABSTRACT

This paper describes how the movement of students with severe disabilities to more inclusive settings impacts on the team process, particularly with regard to the development, implementation, and evaluation of communication intervention. First, the characteristics of transdisciplinary teams as they operate in more inclusive settings are described, followed by a categorization of team processes as either team "functions" or team "structures." Team functions include assessment, goal-setting, and service provision. Team structures refer to how teams are organized (e.g., who should be part of the team) and roles within teams (e.g., facilitator, observer, recorder) as well as the mechanisms team members use to arrive at a consensus in decision-making. The importance of the team in identifying both the vision that its members hope to realize and the goals of inclusion for each student is stressed. The paper concludes with recommendations for future efforts to enhance collaboration among team members working with this population. (Contains 41 references.) (DB)

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ED359695

Facilitating and Measuring the Team Process Within More Inclusive Educational Settings

by
Bonnie L. Utley, Ph.D.
University of Pittsburgh

The purpose of this paper is to describe how the movement of students with severe disabilities to more inclusive settings impacts on the team process, particularly with regard to the development, implementation, and evaluation of communication intervention.[1] *The characteristics of teams as they operate in more inclusive settings are described first. Secondly, team processes are categorized as team "functions" and team "structures." Team functions include assessment, goal-setting, and service provision. Team structures refer to how teams are organized (e.g., who should be part of the team), roles within teams (e.g., facilitator, observer, recorder, etc.), as well as the mechanisms team members use to arrive at consensus in decision-making. Having the team identify both the vision its members hope to realize and the goals of inclusion for each of the students and families served is fundamental to optimal teamwork. The paper concludes with a series of recommendations that may serve as a guide for future efforts to enhance collaboration among team members working with learners who have severe disabilities.*

The movement of children with severe disabilities to more inclusive educational environments may both complicate and simplify the manner in which goals and strategies for communication intervention are selected, implemented, and evaluated. The potential for complication arises from the sheer number of people (both peers and adults) in those settings who may require preparation and guidance with regard to serving as effective communication partners. The simplification may arise from the presence of multiple, age-appropriate role models for use in communication across a range of settings and the possibility that these peers may serve not only as role models in communication, but that they may also serve as intervention agents as well.

For years, students with severe disabilities have been characterized as being unable to communicate easily or as users of unconventional methods to communicate (e.g., augmentative and alternative systems). In fact, the prevalence of difficulties in communication has been mentioned frequently as a predominant characteristic of students with this disability label (Reichle, York, & Eynon, 1989; Rowland & Stremel-Campbell, 1987; Siegel-Causey &

[1] This paper was prepared for and presented at the Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities, held July 10-12, 1992 in McLean, Virginia. The Symposium was supported through Grant No. H086B10002, a Cooperative Agreement between Interstate Research Associates, Inc., and the Office of Special Education Programs (OSEP) of the U.S. Department of Education. The opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement should be inferred.

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Downing, 1987). The likelihood of multiple disabilities in cognitive, sensory, and/or physical processes -- any or all of which complicate assessment and intervention regarding students' needs to improve speech/language and/or communication ability -- suggests that this area of priority needs to be addressed by a *team* of professionals. What impact is movement to more inclusive educational practices having on the team processes that are so much a part of quality educational practices for students with severe disabilities?

Models of Team Functioning

The literature to date on the various models of team functioning is extensive. Historically, the first teams were primarily *multidisciplinary* (i.e., professionals with expertise in different disciplines who evaluated and worked with a child/client individually). This approach was originally designed to meet the needs of people served in medical settings (Hart, 1977). Over time, a second model of team functioning emerged; this model is termed *interdisciplinary*. The interdisciplinary team also included evaluations completed individually; however, in order to reduce fragmentation of services, the team process now included a formal system of communication and the assignment of a "case manager" (McCormick & Goldman, 1979).

Of more recent origin, the *transdisciplinary* team model evolved as a way for professionals to share important disciplinary knowledge and skills with primary caregivers (Hutchison, 1978). This model emerged in recognition of the fact that functioning in everyday routines requires that children perform sensorimotor *and* cognitive *and* communication skills in clusters (Rainforth, York, & Macdonald, 1992). The transdisciplinary model, through an emphasis on sharing discipline-specific knowledge and skills across traditional disciplinary boundaries, was an attempt to promote more consistency in meeting the multiple needs of persons with severe disabilities in the areas of health, motor, and communication. Additionally, it was hoped that the integration of discipline-specific knowledge and skills throughout the school day would permit more longitudinal implementation of specialized strategies and would ultimately result in greater therapeutic benefit.

The transdisciplinary approach provides a new model of *who* provides service. This model is characterized by sharing or transferring information and skills across traditional disciplinary boundaries. The term *role release* is one term for the process of sharing disciplinary expertise (Lyon & Lyon, 1980). However, role release has more recently been conceptualized as only one process in a sequence of six that describe the teaching and learning aspects of transdisciplinary

This paper appears in L. Küpper (Ed.), *The Second National Symposium on Effective Communication for Children and Youth with Severe Disabilities: Topic papers, reader's guide & videotape*. McLean, VA: Interstate Research Associates.

functioning. This expanded view of flexible roles is termed role "transition" and is described in detail by Garland, McGonigel, Frank, and Buck (1989). The six processes of role transition are summarized below:

1. *Role Extension.* Role extension may be described as the actions taken by team members to increase their expertise in their own discipline. Actions may include staying current with the literature, attending professional meetings, and other forms of staff development. An example of role extension is a teacher of the visually impaired attending a workshop on how a student's visual field may impact the selection of an augmentative communication system.

2. *Role Enrichment.* Through role enrichment, all team members develop a general awareness of the terminology and basic practices of other disciplines. As an example, the speech and language pathologist might briefly describe for the other team members the differences between "touch" cues and "object" cues in receptive communication intervention for learners with dual sensory disabilities.

3. *Role Expansion.* When a team member acquires sufficient information from other disciplines, he or she can make knowledgeable observations and recommendations outside of his of her own discipline. This is role expansion. An example might be a special education teacher who notes that the angle of the seatback on a particular student's wheelchair restricts that student's ability to engage in face-to-face interaction with peers.

4. *Role Exchange.* When a team member implements the knowledge and skills of other disciplines under the supervision of relevant team members, roles have been exchanged. An example of role exchange is a parent who demonstrates to the speech and language pathologist a play activity during which the child's use of the concept of "more" is encouraged.

5. *Role Release.* Role release allows for the ongoing practice of newly acquired techniques through consultation with a team member who remains accountable for the practice of those techniques. An example of role release is the social worker who provides instruction to a single father regarding the addition of new vocabulary to his son's sign language repertoire.

6. *Role Support.* Role support means the informal encouragement provided by team members to one another, as well as any additional consultation necessary to maintain each other's correct implementation of disciplinary techniques. An example of role support is periodic observation and feedback regarding oral-motor facilitation by the speech and language pathologist to the teaching assistant who assists a learner with physical disabilities at mealtime.

Typically, descriptions of the transdisciplinary model fail to provide guidelines regarding *where* and *in what context* services should be provided. Initially, transdisciplinary services were characterized as parents, teachers, and other service providers becoming "pseudo-therapists," implementing methods associated with various disciplines

irrespective of context (Rainforth, York, & Macdonald, 1992). In a parallel development, an approach that addressed the *context* for delivering therapy evolved as well. This approach was referred to as *integrated therapy* (Sternat, Messina, Nietupski, Lyon, & Brown, 1977). Proponents of integrated therapy emphasized that services should be delivered in functional contexts (i.e., when and where a person would naturally use a skill, rather than in isolation from ongoing demands in everyday home, school, and community environments). This approach complements the transdisciplinary model both philosophically and programmatically. Movement of students with severe disabilities to more inclusive educational programs has expanded the range and number of settings in which support from related services personnel is provided.

Another defining characteristic of the transdisciplinary team model is the use of an indirect model of service delivery. Indirect therapy may be described as a form of intervention during which team members teach, consult with, and directly supervise other team members, so that the team members receiving supervision can implement therapeutically-appropriate activities (Association for Retarded Citizens/Minnesota, 1989, pp. 3-4). This form of intervention is in contrast to direct therapy in which hands-on interactions between therapists and students occur. Proponents of the transdisciplinary model do not, however, presume that therapists stop providing direct service. In fact, related service providers would rarely be effective consultants unless they maintain direct, hands-on contact with children (Orelove & Sobsey, 1991b; York, Rainforth, & Giangreco, 1990). An important element of this model is that therapists work closely with other team members (and vice versa), so that the educational and related service goals of each student can be integrated within multiple activities conducted in a variety of settings. The transdisciplinary model requires that the traditional roles practiced by educators and related service providers become more flexible to permit a combination of direct and indirect service delivery. Related service providers who serve as team members in more inclusive educational settings may practice a different combination of direct and indirect therapy as a function of different demands within these settings, although the need for accountability and supervision does not lessen in these settings.

The final aspect of team functioning which has received emphasis in the last few years is *collaboration*. Although a reader of the preceding discussion of the transdisciplinary team process and integrated therapy may have assumed that collaboration is a key element of this model of service delivery, only recently have the *processes* of collaboration been addressed in specific ways. Indeed, while a group of professionals may label themselves a "team," Hutchison (1978), an originator of the transdisciplinary model, states that "calling a small group of people a team does not make them so" (p. 70). Clearly, a fundamental aspect of optimal team functioning is mutual understanding of, and respect for, the skills and knowledge of each individual member (Orelove & Sobsey, 1991b). Thousand and Villa

(1992, p. 76) have defined collaborative teams as those whose efforts are characterized by the following:

1. Coordination of their work to achieve at least one common, publicly agreed upon goal (Appley & Winder, 1977).

2. A belief system that all members of the team have unique and needed expertise (Vandercook & York, 1990).

3. Demonstration of parity, the equal valuation of each member's input...by alternately engaging in the dual role of teacher and learner, expert and recipient, consultant and consultee (Villa, Thousand, Paolucci-Whitcomb, & Nevin, 1990).

4. Use of a distributed functions theory of leadership in which the task and relationship functions of the traditional lone learner are distributed among all members of the group (Johnson & Johnson, 1987a, 1987b).

5. Employment of a collaborative teaming process that involves face-to-face interaction; positive interdependence; the performance, monitoring and processing of interpersonal skills; and individual accountability (Johnson & Johnson, 1987a, 1987b). (Citation from Thousand & Villa, 1992, p. 76)

The movement to more inclusive educational settings does not preclude the adoption of a truly collaborative, transdisciplinary team that operates in integrated settings using a mixture of direct and indirect service delivery. In fact, team processes characterized by the elements described above are a necessary component of such a change in service provision. It is only through the combined expertise of multiple specialists (including both regular and special educators, related service providers, parents, and peers) that meaningful learning opportunities for a diverse student population (including students with severe disabilities) can be provided. This philosophical position typically involves a rejection of the more traditional, narrow view of professional responsibility in favor of group decision-making, which is the hallmark of the collaborative team process. In fact, collaborative teams and the group decision-making process have been mentioned frequently as a key element in successful school restructuring efforts (Stainback & Stainback, 1990; Thousand & Villa, 1989, 1991).

Clearly, team processes that are characterized by role transition, flexibility in terms of where and when therapy is delivered, and collaborative practices are an important element of the movement to more inclusive educational practices. For students with severe disabilities, the needs addressed by related service providers

(i.e., language/communication, movement, sensory functioning) underlie the ability of students to function across the curriculum and within the full range of settings these students access. Sharing information across disciplinary boundaries is *essential* if students are to benefit from special education in these settings.

Team Structure and Functions

Orelove and Sobsey (1991b) defined the nature of transdisciplinary team functions as occurring in three distinct areas: (1) assessment, (2) goal setting, and (3) service provision (both instruction and therapy). However, discussions of team functions provide an incomplete description of the factors related to teamwork within more inclusive settings. Of equal importance is *how* the team is structured (e.g., the belief system adopted by the team, interpersonal skills, etc.).

A description of current practice, as found in the literature regarding the structure and functions of team participation, follows. Unfortunately, most sources separate team functions from team structure. This dichotomy may obscure the fact that the ability of a team to complete a variety of functions (e.g., service provision) is *enhanced* if that team is characterized by the use of a variety of effective team structures (e.g., an established set of rules regarding how conflict is resolved). The following section is an attempt to *synthesize* key information on team structure and functions.

Assessment

The literature on team assessment may be organized as those sources that focus on discipline-specific assessment (i.e., the completion of discipline-referenced measures specific to a professional's particular area of expertise), and those sources that address how team members interact around the function of assessment. An emphasis on discipline-specific measures, such as those related to articulation, phonation, or developmental "levels" of receptive and expressive communication, may suggest that assessment for students with severe disabilities should be conducted for the purpose of determining whether a particular student is a *candidate* for communication intervention (Musselwhite & St. Louis, 1988). The candidacy model has been replaced, however, by one that emphasizes that *all* students are entitled to participate in communication intervention (Mirenda & Iacono, 1990; Rosenberg & Beukelman, 1987). A decision by the team to adopt the participation model of communication intervention is compatible with service delivery in more inclusive settings. Adoption of the participation model requires that ecological assessment processes be emphasized. Ecological processes are those in which a variety of relevant school, home, and community environments are surveyed to provide information regarding meaningful activities in which that student may be expected to communicate. Knowledge of the current and future settings in which students function may provide helpful information to be used by the team during

one of their most important functions -- namely, goal selection as it relates to communication modes and systems. Ecological assessment should also include consideration of the number of potential communication partners, as well as the context in which communication is likely to occur (Rogers-Warren, 1984). See Sigafoos and York (1991) for more information about ecological assessment of communication behavior.

Correia and Sobsey (1984) outlined an eight-step evaluation process that includes a natural sample of a person's communication ability. This natural sample is conducted at a time and place recommended by significant others in that person's life, as determined through an interview. A second, more structured, an elicited sample is conducted as well.

Sources of information regarding *how* all team members interact regarding the assessment process are less plentiful than those describing what and where to assess for the purpose of communication development. There are, however, occasional mentions of the value of having multiple team members participate in assessment. Orelove and Sobsey (1991a) emphasize the role of occupational and physical therapists in assessing movement patterns for the purpose of designing an individualized graphic array. Siegel-Causey and Downing (1987) stress that an adequate evaluation of nonsymbolic communication must be done in conjunction with other team members who assess vision, hearing, neurological status, perceptual-motor skills, and social competencies. Downing (1990) suggests that all team members share their skills and expertise to provide information on a student's communication skills. She provides this example:

> ...the parent and special educator can provide information related to environmental communication needs, the physical therapist can provide information related to certain body positions that encourage arm movement to access a communication device, the speech-language pathologist can provide information about the student's symbolic and non-symbolic communication abilities, and the orientation and mobility specialist can provide information related to the student's visual requirements for developing a portable communication mode. (p. 22)

Beyond the sources reviewed above, there are relatively few mentions made of the contributions of various team members during assessment for the purpose of communication skill development. There is, more than likely, an assumption that all relevant team members conduct their specific, discipline-referenced assessments, with the outcomes of those assessments to be shared at a meeting devoted to the second function of teams -- that of goal-setting. Although it may be appropriate for various team members to independently assess a child to obtain information regarding particular strengths and vulnerabilities, the completion of separate, discipline-referenced assessments should be followed by more ecological measures.

Baumgart, Johnson, and Helmstetter (1990) describe a method of using daily routines to select and implement a communication system. They outline three steps to be followed during assessment:

- examine existing signals in typical schedules (i.e., in terms of their content, form, function, and context);
- collect information from other sources (e.g., retrospective and anecdotal sources, direct observation); and
- answer nine specific questions (e.g., what behavioral forms or signals does the individual use in various settings?).

With direct observation, it may be appropriate to conduct the ecological measures jointly with other team members to aid in interpretation of a child's response (e.g., intentional versus reflexive) and to share disciplinary perspectives on whether a particular response should be encouraged or discouraged. For an example of the latter situation, a teacher of visually impaired students and an occupational therapist may both observe a child's ability to access (both visually and physically) a potential graphic communication system positioned on the student's wheelchair tray. The teacher may observe that the student is able to access the entire tray visually. The occupational therapist, however, notices that intentional movements to objects on the left side of the graphic display produce increased tone, longer latency to touch, and apparent high energy expenditure and reduced accuracy to touch those objects. In this example, when direct observation is conducted together, both team members share their perspectives and jointly recommend placement of the display to the right lateral half of the child's body. This process is superior to the alternative possibility that may have resulted if both parties arrived at the planning meeting with contradictory recommendations.

Goal-Setting

There are two systems that address in specific ways how teams interact regarding the process of goal-setting. Both systems address goal-setting in the area of communication as one component of a more global goal-setting process.

The first system to be discussed was developed by Giangreco, Cloninger, and Iverson (1991) and is entitled C.O.A.C.H. (Choosing Options and Accommodations for Children). C.O.A.C.H. consists of a three-step model that begins with an interview conducted by one or two team members in order to obtain family priorities referenced to a series of "quality of life" indicators (e.g., "Having a safe, stable home; Having a level of choice, control, and independence that matches the person's age"). The interview continues with team members guiding the family through a series of curriculum lists that describe activities and/or skills organized according to whether the skills/activities (e.g., communication, socialization, etc.) occur *across* environments or are specific to certain environments (e.g., home, school). Family members rate each curri-

cular skill or activity as a potential priority for the current or upcoming school year; they also rate their child's relative ability to participate in each activity. The four-point rating scale they use ranges from "resistant to the assistance of others" to "skillful." Following the initial review of the curriculum lists, a series of steps is taken that results in a refined set of parental priorities for the student.

At this point, the second stage of the C.O.A.C.H. process is undertaken. The parent priorities are restated (in draft form) as annual goals. This draft list of goals is then shared with the remaining team members. A series of additional steps is carried out which results in all team members addressing the "breadth of curriculum" (based in part on the general education learning outcomes associated with the grade level appropriate for the student's chronological age) and "general supports" (those services provided *for* a student, such as attending to personal needs, providing access, and teaching others about the student). The process concludes with development of a series of short-term objectives.

The third component of C.O.A.C.H. moves from a discussion of team functions to one that focuses on team structures -- specifically, to a series of guidelines regarding the organization of the teaching team. Such elements as assignment of responsibilities, scheduling of team meetings, and identification of planning time are described in this section. This component also describes how the team addresses educational program components within inclusive settings. Topics include how the team schedules for inclusion, as well as how team members plan and adapt inclusive learning experiences. Scheduling for inclusion is accomplished through the use of a scheduling matrix on which the individualized education program (IEP) priorities, breadth of curriculum, and general supports are listed on the vertical side of a matrix, and the schedule of general class activities is listed across the horizontal side. A sample scheduling matrix is shown in Table 1. Team members use the matrix to guide a meeting process described by Giangreco, Cloninger, and Iverson (1991) in the following way:

> Team members consider which IEP priorities, breadth of curriculum areas, or general supports could possibly be addressed within identified classes or activities. Starting with the first listed general class activity and the first IEP goal, the group asks, "Are there any opportunities to address this goal in this class or activity?" If any team member believes there is a possibility, it is described to the team. Then the team repeats the process for the rest of the IEP goals. (pp. 83-84)

As mentioned earlier, goal-setting with regard to communication is a component part of overall educational planning. The skill/activities lists that serve as the basis for generating goals (both as part of the family prioritization interview and the process of determining the "breadth of curriculum") include

Table 1

Sample Scheduling Matrix Adapted from the C.O.A.C.H. Model (Giangreco, Cloninger, & Iverson, 1991).

SCHEDULING MATRIX
General Class Activities

Name: Cheryl K.		Home Room	Soc. Studies	Science	P.E.	Lunch	Study Hall (Replaced w/CBI)	Math (Continue CBI for 1st Sem.)	Lang. Arts	Art
Grade: 7		20 min.	50 min.	50 min.	50 min.	25 min.	35 min.	50 min.	50 min.	50 min.
IEP Priorities	Follows instructions	x	x	x	x	x	x	x	x	x
	Uses money					x	x	x		
	Manages personal belongings	x	x	x	x	x	x	x	x	x
	Summons others	x	x	x	x	x	x	x	x	x
*Breadth of Curriculum	Applied academics	1,2	1	1		1,2	1,2	1,2	1	1
	Socialization	3,4	3	3	3	3	3,4	3,4	3	3
	Physical ed.				5,6					
	School	8	7				8	8	7	7
General Supports	Teaching others about the student	All staff and students must be oriented to, and taught about Cheryl's communication system.								

*Breadth of Curriculum Learning Outcomes

Applied Academics
1. Reads symbols
2. Uses clock/watch

Socialization
3. Greeting behaviors
4. Accepts unexpected changes in routine

Physical Education
5. Participates in group activities
6. Follows game rules

School
7. Works at task independently
8. Travels to and from school

elements of a functionally-based, easy-to-hard sequence in a domain area and other activities/skills that may be thought of as representing "best practice." In the area of communication, the activity/skill list contains twelve items. The list begins with the potential goal of having the student "indicate continuation or express more," to "make choices," to several items that represent typical expressive and receptive communication and language functions. Of the nine skill/activity lists that compose a key element of goal-setting in the C.O.A.C.H. process, the communication list is the *first* list to be completed by parents and other team members.

The second system designed to be used by teams in the process of goal-setting is an outgrowth of the Vermont Statewide Systems Change Project (Fox & Williams, 1991). The product, which describes the process of promoting more inclusive educational practices, is devoted almost exclusively to a description of two teams: the "School Planning Team" and the "Individual Student Planning Team." This comprehensive work of Fox and Williams (1991) addresses team structures as well as the team processes of goal-setting and planning for inclusion. These authors also address goal-setting in the area of communication as one element of several addressed in the process. Again, as in the C.O.A.C.H. model, communication is the first of several skill areas considered in team planning of a student's educational program. In this model, however, a distinction is made between the areas of "communication" and "language." Communication is conceptualized as consisting of skills such as "showing preference," "indicating rejection/protest," "indicating wants and needs," and so forth, while the language skill area consists of skills such as "following directions," "receptive and expressive vocabulary," and "relational concepts."

Within the Vermont Statewide Systems Change Model, the team process of goal-setting is preceded by another process in which a number of issues labeled "fundamental values" are addressed. The process of considering a number of fundamental value areas in program development is designed to help team members select those fundamental values that represent priority areas for students and their families. The fundamental values reflect selected areas the team should attend to in overall educational planning for all students. Examples include: academics, social acceptance/friendship, self-concept/self-esteem, and inclusion in integrated activities. Again, there is some overlap between the fundamental values identified by Fox and Williams (1991) and the "quality of life indicators" within the family prioritization interview that is a key component of C.O.A.C.H. (Giangreco, Cloninger, & Iverson, 1991).

It is noteworthy that the two well-developed sources for team structures and functions related to goal-setting within inclusive settings address parent and professional values as a component part of the process. The need for team members to articulate their values as an initial step of collaborative team functioning is well supported in the literature (Parnes, 1988; Schlechty, 1990; Villa & Thousand, 1992).

The process of values clarification is typically addressed through joint development of a "mission" or "vision" statement that is then assumed to clarify the standard against which team members will evaluate their various structures and functions throughout the school year.

Simply completing a mission/vision statement process may, however, be insufficient to provide guidance to team members regarding whether or not the outcomes of various team processes match that mission/vision statement. Fox and Williams (1991) address this problem. They suggest a somewhat lengthy process during which school district personnel reach consensus regarding a series of best practice guidelines. The guidelines are then regarded as one standard against which team structure and functions are compared. The process consists of school district personnel reviewing, through a questionnaire, a set of 54 best practice indicators. The best practice indicators are categorized according to several areas including "school climate and structure," "collaborative planning," "social responsibility," "curriculum planning," "delivery of instructional support services," "individualized instruction," "transition planning," "family-school collaboration," and "planning for continued best practice improvement." Each team member reviews the best practice indicators to decide whether he or she agrees that it is a relevant part of the standard to guide the team. If agreement is expressed, the team members then evaluate the relative need for improvement in the school regarding the degree of need to promote implementation of the best practice indicator, and whether the indicator is a "priority." After a set of priorities is selected, team members then decide whether improvement with regard to that indicator is a matter of school policy, a "systems issue," or can be addressed through additional instruction of team members, parents, students, or school faculty and/or staff.

Another way in which the relationship between values and goals can be linked is by establishing a set of criteria against which potential goals and/or solutions to particular problems can be compared. This process can be one of the final steps in a series carried out by a team in one or more generic problem-solving processes. Typical steps in problem-solving methods include those related to: (1) problem identification/clarification, (2) brainstorming, (3) selection of potential solutions, and (4) action planning. Using a set of criteria to assist team members in selecting a solution compatible with fundamental goals (or a team's mission or vision statement) would occur at the fourth step in the problem-solving process. Although most problem-solving methods are designed to help team members do just that, the step of "checking" potential solutions against a set of criteria or the mission/vision statement may assist team members in generating outcomes that are consistent with their stated mission.

Service Provision

The third team function is providing services that will promote a student's acquisition of individualized

goals. Teams that operate in more inclusive educational settings must determine, on an individual basis, the roles and responsibilities that each team member implements. As described earlier, teams that provide educational services in more inclusive settings are characterized by elements of collaboration and the transdisciplinary model. These teams provide a flexible mix of direct and indirect therapeutic services in a programmatically integrated fashion. Each of the characteristics is discussed in more detail below.

Collaborative and transdisciplinary service provision. Services that are collaborative and transdisciplinary are those in which the contributions of a range of professionals are shared across traditional disciplinary boundaries in a cooperative rather than competitive manner. Students with severe disabilities often present challenges that may be supported through the expertise of a range of professionals. A primary challenge is the need for students to have a communication/language system that enhances the student's participation within inclusive settings. Following goal selection in the areas of communication and language, a series of steps can be implemented that assist the team in deciding which members will contribute to the design and implementation of the student's program.

It is important to recognize that the essential nature of human communication requires that decisions regarding service provision in this therapeutic area be done somewhat differently from other related service areas. Although *selected* team members may provide input to the design of a communication program, *all* team members (as well the majority of both children and adults within the inclusive setting) implement the program. This may differ from program design and implementation in areas which require that a leadership role be played by other related service professions (in the areas of health, motor, or sensory challenges), where not all team members, or members of the school at large, implement key aspects of the program.

With regard to the design of communication/language programs, each student's needs will determine which team members participate in program design. The primary people involved include the speech/language pathologist, parents, special educator, and one or more teachers from general education, depending on the degree of inclusion experienced by the student. The student and a small group of the student's peers may also be involved in program design. Peers may provide ideas for vocabulary selection (e.g., typical greeting behaviors) and materials (e.g., a wallet or notebook graphic system, rather than a more traditional communication board). Peers may also provide a gauge for the acceptability of potential intervention strategies (e.g., distributed versus massed practice on receptive vocabulary). For some students with severe disabilities, contributions may also be necessary from additional related service personnel regarding gross and fine motor considerations, as well as sensory adaptation.

Direct and indirect service provision. Team service provision may consist of a combination of direct and indirect service

delivery. With regard to communication, however, the major role of the speech/language pathologist is through indirect service delivery. Again, the essential nature of communication requires that the majority of potential communication partners have the skills necessary to implement each student's communication program. Again, rarely is it ever appropriate for a speech/language pathologist to be completely exempt from providing direct service, as such a model would limit the professional's ability to continue the development of "hands-on" skills that serve as the basis for timely and relevant input to the team process for each student.

Integrated therapy. Communication/language abilities are essential, embedded skills. As such, service delivery in this area must be integrated both *physically* (i.e., the site of service delivery) and *programmatically* (i.e., the necessity for support in this skill area is clearly related to the student's ability to benefit from special education). However, an exception to the recommendation that all service delivery be integrated may occur in regard to the delivery of strategies designed to enhance a student's oral-motor ability. In those circumstances in which the implementation of strategies may stigmatize a student socially, then limited delivery of more isolated therapy may become appropriate.

Evaluation

All aspects of teamwork require ongoing evaluation so that changes in structure and/or functions may be made as needed. A review of potentially valuable concepts related to evaluation follows.

Team Structure

As defined for the purpose of this paper, team structure refers to how teams are organized and managed, as well as what roles and responsibilities are implemented. Although there is a substantial body of literature available in which particular characteristics of teamwork are described (e.g., transdisciplinary), there is general agreement that an effective team is one in which team members are truly collaborative in their interactions. Collaboration is expressed through mutual respect and active participation in consensus decision-making, as well as the ability to address controversial issues directly and productively. Some suggestions regarding evaluation of collaborative team structures may be found in the work of Fox and Williams (1991). These authors have suggested two potential methods that are designed to measure the personal effectiveness of team members. The first of the processes is to be carried out by the team member who serves in the role of the *observer* for a particular team meeting. As the meeting unfolds, the observer collects data as to whether individual members engage in a set of collaborative team practices. The collaborative practices to be assessed are determined collectively by each team but may include such skills as encouraging others, asking for clarification, expressing feelings and ideas, and active listening. The observer provides feedback to all team members

regarding their relative strengths and vulnerabilities with respect to each collaborative skill. For team members who may feel uncomfortable with this form of evaluation, a second option is to have team members conduct *self-assessment* with regard to the demonstration of collaborative skills. Again, the skills to be assessed may be determined collectively, but evaluation is a private rather than a public matter. In addition to the skills that have been determined collectively, each team member may select a limited set of additional collaborative skills that he or she may feel would benefit from additional effort (e.g., "I listened to and expressed support and acceptance of others' ideas").

Carney (1988) has developed a set of two self-assessment checklists that can be used to evaluate the dynamics of team participation. One checklist is for evaluation of personal dynamics and includes such skills as "What does your facial expression and body language communicate?" and "Do you feel that you generally trust other group members?" The second checklist is used to evaluate group dynamics related to team participation and includes such items as "Who assumed responsibility for getting the job done?" and "Did the group have all the information it needed to proceed?" These checklists are described more fully in Orelove and Sobsey (1991b). The use of these or similar self-assessment measures may be helpful to team members as they struggle to meet the challenges of implementing an effective team model.

In addition to evaluating the interpersonal and collaborative aspects of team participation, it may also be appropriate for team members to engage occasionally in an exercise during which the goals of team membership can be reviewed, as well as whether or not the team structure supports or hinders the acquisition of those goals. As an outcome of this process, changes in team structure may result, such as increasing or decreasing the number of team members, changing the roles and responsibilities of various team members, and adopting various collaborative practices (e.g., agreement to adhere to a specific model of problem-solving or conflict resolution).

Team Functions

Goal-setting. There are multiple dimensions to the evaluation of team goal-setting. Team membership is one way that the evaluation of team goal-setting may be enhanced on a longitudinal basis. The meaningful participation of parents, students, peers, and community members may encourage relevant goal-setting, simply through the participation of a broad number of constituencies. A second way to evaluate goal-setting is to have team members select a set of best practices that will serve as the framework for team goals over the course of a particular school year. As described earlier, Fox and Williams (1991) have identified a set of 54 best practice guidelines that can be used as one reference point for evaluating team functions.

Although agreement on a set of best practice guidelines is an important exercise for team members to undertake,

it may also be necessary for team members to evaluate goals more than annually. On occasion, teams meet to make modifications in a student's program, address a behavioral or medical "crisis," and make modifications in goal-setting based upon progress (or lack of progress) on a set of goals. As described earlier, it may be helpful for team members to supplement their problem-solving model to include a step during which the potential solutions under consideration by the team are judged against a more limited set of standards or values that are in place for that student. These standards may reflect such elements as determining which of two values will take precedence in a particular decision, or whether the purpose of inclusion for a particular student is served better through selection of one goal over another. For example, a student with a severe physical disability may require an augmentive or alternative communication device. Is it more important for that student to use the device at mealtime to express preferences (which may lengthen the time the student spends in the lunchroom), or is it more important for the student to have a more abbreviated mealtime program and move quickly to the playground for interaction with peers? The adoption of a limited set of values against which team decisions are evaluated may be determined individually for each student.

Service provision. The evaluation of how well teams engage in service provision is another area in which broad team membership may facilitate adherence to a meaningful set of standards. As special educators and related services personnel modify their roles and responsibilities in accordance with more inclusive educational practices, the input of multiple constituencies may help team members engage in the use of more normalized methods and materials. The work of Fox and Williams (1991) may again provide guidance in this area. They have identified suggestions for team members to use in deciding which of multiple teaching methods and materials may be the most appropriate for individual students who participate in more inclusive educational activities. They address a range of potential student responses as well. Examples from their work include: (a) methods such as coaching, computer aided, fading, and time delay; (b) materials such as photographs or concrete "real" items; and (c) student responses such as "looking at," "picking up," or "underlining."

Team decisions regarding service provision, like those related to goal-setting, may warrant ongoing consideration of methods, materials, and response selection against a set of best practice guidelines or a more limited set of values-based criteria (e.g., interdependence). This process may help ensure that the team continues to move forward to ever more inclusive practices as each school year progresses.

Conclusion and Recommendations

The need for partnerships and teamwork among professionals from various disciplines is well recognized as a "quality indicator" of best practice service delivery for students with severe disabil-

ities (Fox & Williams, 1991; Meyer & Eichinger, 1987). Additionally, input from related services personnel is a key element of Public Law (P.L.) 101-476, if related services are "...required in order to assist a child with a disability to benefit from special education" (Individuals with Disabilities Education Act, 1990).

Despite professional recognition of the need for teams and the legislation that explicitly supports team input, there are continuing problems with team structure and functions. Ferguson and Ryan-Vincek (1992), in a review of problems with "teaming" in special education, have interpreted the literature to date as suggesting that the problems lie in: "(a) what team members know, (b) how team members interact, and (c) how teaming activity is organized" (pp. 67-68). These authors then provide a second interpretation of the problems with teaming which may be summarized as the need for teams to examine how problems are both named (i.e., the things to attend to) and framed (i.e., determining the context in which those problems will be attended to). Ferguson and Ryan-Vincek (1992) also interpret problems as stemming from (a) not so much from *what* team members know as *how* they know (i.e., differences in the ways professionals from different disciplines exercise their judgement), and (b) not so much *how* team members interact as *who* they are (i.e., that there are differing perspectives within as well as across disciplines).

As the discussions on collaborative team processes in the field continue, it may be helpful to articulate some recommendations that may guide future efforts to enhance the team process. Those recommendations include the following:

Recommendation #1: Examine current practices in preservice personnel preparation for both educators and related services personnel with regard to the time and effort devoted to preparing novice teachers and therapists to become effective team members. A potential solution to resolving the differences in perspective that arise from preparation that is *either* educational or therapeutic is that a certain degree of joint preparation should be undertaken at the preservice level. This solution, however, may interfere with the necessity for professionals to be indoctrinated into their respective disciplines, both in terms of the objective knowledge of the discipline *and* the subjective norms by which professional judgements are acquired (Skrtic, 1988). These differences in perspective may either add to the creative solutions that teams may generate during problem-solving or may complicate the process of reaching consensus. The latter outcome may arise if there is insufficient agreement on a shared vision or on a set of mutually determined values.

A recommendation for preservice preparation is to encourage programs that prepare teachers and related services personnel to practice the structure of teaming (i.e., work as teams rather than individually in both didactic coursework and field-based/clinical experiences), in order to learn the processes of collaboration within the disciplinary framework first. Specific instruction on the various roles of team members, the processes of problem-solving, conflict resolution, and assessment of interpersonal skills may

occur during this time. Additional experiences during which students from a range of preparation programs (both educational and therapeutic) practice teaming in final field-based/clinical placements may also occur near the conclusion of their respective preparation programs, after socialization within individual disciplines has occurred.

Recommendation #2: Continue the development of team members' ability to function effectively through inservice support. A partial list of resource materials that may be of assistance in enhancing existing team structures and functions is found at the end of this manuscript.

Recommendation #3: Analyze the differences between educational and medical/therapeutic perspectives, as they underlie the provision of services to persons with severe disabilities. It is necessary to articulate clearly that, in educational settings, the "deficit" model common to the medical perspective is replaced with a model that is more holistic and that focuses on a person's strengths as well as vulnerabilities. A belief that *all* people can learn and a rejection of the assumption that services are provided on the basis of the relative "return-on-investment" (Giangreco & Eichinger, 1990) are fundamental to developing the shared framework that underlies collaborative teams.

Recommendation #4: Provide administrative support with regard to the time necessary for teams to meet on a regular basis, as well as support for individual team members to provide the flexible combination of direct and indirect service provision that is necessary for effective team functioning. Administrative support that includes such a commitment to scheduling and flexibility may need to occur at the building or district level.

Challenging as they may be, teams are necessary for the simple reason that neither educators, parents, nor related services personnel singularly possess all the information and skills necessary to meet the varied needs of students with severe disabilities. For this reason, the collective contributions of parents and professionals from a range of disciplines are an important aspect of ensuring that *all* students are able to access the full range of educational opportunity guaranteed under the Individuals with Disabilities Education Act.

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